NEW MEXICO
ENVIRONMENT DEPARTMENT

Ground Water Quality Bureau

1190 St. Francis Drive, P. O. Box 5469
Santa Fe, NM 87502-5469
Phone (505) 827-2900 Fax (505) 827-2965
www.nmenv.state.nm.us

BILL RICHARDSON
Governor
DIANE DENISH
Lieutenant Governor

RON CURRY
Secretary
SARAH COTTRELL
Deputy Secretary

July 1, 2010

Ms. LaDonna Turner
Site Assessment Manager
U. S. EPA Region 6 (6SF-TR)
Technical and Enforcement Branch
Superfund Division
1445 Ross Ave. Suite 1200
Dallas, Texas 75202

RE: Transmittal of "Phase 1 Site Investigation Report, San Mateo Creek Legacy Uranium Sites, CERCLIS ID NMN00060684, McKinley and Cibola counties, New Mexico."

Dear LaDonna:

The enclosed report summarizes and analyzes ground water sample data collected by the New Mexico Environment Department (NMED) during 2009 from private wells in the San Mateo Creek Basin (SMC) hydrologically upgradient from the Homestake Mining Company Superfund Site (EPA ID NMD0007860935). The San Mateo Creek basin was the site of at least 85 uranium mines and 4 uranium mills. The purpose of this phase of the Site Investigation was to compare the quality of water in use from private wells in the basin to federal and state drinking water standards, and to state ground water quality standards to determine if a threat to human health or the environment exists such that further action under CERCLA is warranted. An additional objective of this investigation was to examine whether any relationship of water quality to the presence of legacy uranium sites might be established. The latter objective is further addressed in the May 2010 draft NMED report "Geochemical analysis and interpretation of ground water data collected as part of the Anaconda Company Bluewater uranium mill Site Investigation (CERCLIS ID NMD007106891) and San Mateo Creek legacy uranium Sites Investigation (CERCLIS ID NMN00060684), McKinley and Cibola counties, New Mexico."

This phase of the SI focuses on evaluating ground water quality in comparison to federal and state drinking water standards as well as state ground water standards in existing private wells, and identifying receptors to ground water contamination. Subsequent phases may specifically target alluvial and bedrock aquifers through installation of monitor wells in order to identify areas, and possibly specific legacy uranium sites within the San Mateo Creek basin from which ground water contamination most likely originates. Additional SI phases may target characterization of sediments throughout the basin for the same objectives. Results from these SI phases are expected to provide information necessary to prioritize individual legacy uranium sites within the San Mateo Creek basin for further detailed investigation.

NMED personnel collected samples from 28 private wells within an area of the SMC north of the Homestake Mining Company Superfund Site, and analyzed the samples for "wet" chemistry, total and dissolved metals concentrations, and radionuclides. Additionally, samples from 13 wells, including one additional well that had insufficient water to perform other analyses, were collected for analysis of uranium, sulfur, carbon, and oxygen isotopes. Twenty-one of the wells sampled for chemical parameters had one or more exceedances of primary maximum contaminant levels (MCLs); this population includes 13 wells with exceedances of the uranium MCL. Samples from 25 wells had exceedances of secondary MCLs. All wells sampled for this investigation had one or more exceedances of MCLs. Samples from eighteen wells had exceedances New Mexico Water Quality Commission ground water standards; this total included 17 wells with exceedances of human health standards and 14 wells with exceedances of standards for domestic water supply.

One significant issue with data collected for this Investigation is that little data exist to accurately determine from what aquifer ground water in each well originates. NMED attempted to compile completion information from well owners, as well as to correlate well records from the New Mexico Office of the State Engineer with sampled locations to determine this information for the wells sampled. Additionally, NMED's report which analyzed the geochemical data from both this and the previous investigation of the Anaconda Company Bluewater uranium mill attempted to discern geochemical properties that may indicate the aquifer of completion. The results of this analysis indicate that up to 16 of the wells sampled for this investigation may be alluvial wells, and up to 11 wells may be bedrock wells (one well, SMC-28, had overlapping geochemical characteristics suggestive of both aquifers).

NMED recommends further action under CERCLA. Specifically, NMED recommends additional work within the SMC to determine whether, and which specific, legacy uranium sites may impact ground water quality so that more focused investigation of individual sites under CERCLA can be initiated. The locations of existing wells, and the general lack of accurate well completion details, will require installation of additional monitoring wells in order to determine which types of legacy uranium sites (e.g., "dry" or "wet" mines, millsites) should be prioritized for site-specific investigations under CERCLA. Between the two Site Investigations that NMED has conducted within the SMC, NMED believes that the majority of private wells with the SMC have been sampled.

Please contact me at (505) 827-2908 or David L. Mayerson of my staff at (505) 476-3777 if you have any questions about this report.

Sincerely,

Dana Bahar, Manager
Superfund Oversight Section

Enclosure: Phase 1 Site Investigation report, San Mateo Creek Legacy Uranium Sites, CERCLIS ID NMN00060684, McKinley and Cibola counties, New Mexico.

Copies without enclosure:
Kathy Gibson, US EPA Region 6 Superfund State Coordinator
Janet Silva, Manager, Grants and Planning Section

SMC 2010 correspondence file
NMED/GWQB/SOS June 2010 read file